

Appl. No. 10/075,718
Amdt. dated August 19, 2004
Reply to Office Action of May 5, 2004

II. REMARKS/ARGUMENTS

A. Regarding the Amendments

Claims 23-25, 27-30, 32-33, 35-36, and 38-39 are pending. Claims 26, 31, 34, and 37 have been cancelled. Claims 23 and 28 have been amended to include provisions recited in depended claims. Specifically claim 23 has been amended to include provisions recited in claims 26 and 34 while claim 28 has been amended to include provisions recited in claims 31 and 37. No new matter is added by the amendments. Entering of the amendments is respectfully requested.

B. Rejection under 35 U.S.C. §112, first paragraph

Claims 23-33 are rejected as the full scope of the claims are allegedly not being enabled. Applicant respectfully traverses this rejection.

The Office Action indicates that the phrase "neoplastic growth" recited in the claims could "encompass[es] any growth including any benign polyp or a wart that have different known treatment." Although the Office Action has yet to provide any evidence or sound reasoning in support of its contention, applicant for the sole purpose of expediting prosecution has amended the claims to recite "a neoplastic growth associated with tumor or cancer".

Applicant respectfully submits that the specification teaches the use of indolocarbazole derivatives in combination with radiation to treat various abnormal growth, e.g., in tumor or cancer cells. The specification lists several examples of neoplastic growth including prostate cancer, bone tumor, colon cancer, lymphoma, and brain tumor. (See page 9, lines 1-4 in the specification.). In addition, the specification provides examples to demonstrate the efficacy of the present invention in different types of cells including Chinese hamster ovarian CHO cells, human breast cancer MCF-7 cells, and Chinese Hamster lung fibroblast cells. (See Example 2 at pages 15-16 and Example 7 at pages 21-22 in the specification.).

The specification also teaches the dosage, pharmaceutical carrier, duration of treatment and route of administration of the indolocarbazole derivatives in association with radiation or radiation with an anti-neoplastic chemotherapeutic agent. For example, the specification teaches that indolocarbazole derivatives can be used at a non-cytotoxic level or radiosensitivity

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increasing amount such as at least 1, 2, 5, or 10 $\mu\text{g/ml}$ to treat neoplastic growth (page 9, lines 5-9 and page 10, lines 1-5 in the specification). Examples are also provided to illustrate the use of indolocarbazole derivatives at 2 $\mu\text{g/ml}$ and 10 $\mu\text{g/ml}$ in Chinese hamster ovarian CHO cells, at 2 $\mu\text{g/ml}$ in human breast cancer MCF-7 cells, and at 1, 2.5, 5, and 10 $\mu\text{g/ml}$ in Chinese Hamster lung fibroblast cells (Example 2 at pages 15 and 16 and Example 7 and pages 21-22 in the specification).

In summary, the specification teaches how to make and use indolocarbazole derivatives in treating various neoplastic growth associated with cancer or tumor. The Office Action has failed to provide any evidence to support its position that the present invention would not be operable for the treatment of neoplastic growth associated with cancer or tumor. Therefore, the Office Action has not made a *prim facie* case of nonenablement. Withdrawal of the rejection is respectfully requested.

C. Rejections under 35 U.S.C. §103(a)

Claims 23-33 are rejected as being obvious over Chen et al. (1997) in view of Prudhomme (2000). These rejections are respectfully traversed.

The Office Action suggests that even though one skilled in the art would not have known the radiosensitization effect of certain indolocarbazole derivatives, he or she would still have used indolocarbazole derivatives in combination with radiation therapy to treat cancer or tumor since it was known prior to the present invention that indolocarbazole derivatives had cytotoxic effect. Applicant respectfully point out that the claims have been amended to recite that "the amount of indolocarbazole derivative does not cause a substantial cytotoxic effect." In other words, the methods provided by the present invention use indolocarbazole derivatives at a non-cytotoxic level to enhance the radiosensitivity of cells, but not to produce cytotoxic effect.

Chen and Prudhomme do not teach or suggest that indolocarbazole derivatives can be used at non-cytotoxic level, nor do they teach or suggest which subclass(es) of indolocarbazole derivatives provide radiosensitization effect at non-cytotoxic level. Therefore, the disclosure of the cited prior art would not have made it obvious for one skilled in the art to use certain subclasses of indolocarbazole derivatives at a non-cytotoxic level in combination with radiation therapy to treat cancer. Withdrawal of the rejection is respectfully requested.

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In view of the amendment and the above remarks, it is submitted that the claims are in condition for allowance and a notice to that effect is respectfully requested. The Examiner is invited to contact Applicants' undersigned representative if there are any questions relating to this application.

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Respectfully Submitted,

Gray Cary Ware & Freidenrich LLP

By 

Nan Wu

Reg. No. 43,360

Telephone: (415)-836-2531

Facsimile: (415)-836-2501

Gray Cary Ware & Freidenrich LLP
153 Townsend Street, Suite 800,
San Francisco, CA 94107-1907

